PTO 10-1599

CC=CN DATE=20011212 KIND=A
PN=1325665

ELECTROTHERMAL DEVICE AND ELECTROTHERMAL MEDICAL BAG MADE OF SAID DEVICE [Yi Zhong Dian Re Zhuang Zhi Ji Qi Yong Gai Zhuang Zhi Zhi Zuo De Dian Re Yao Shu Dai]

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UNITED STATES PATENT AND TRADEMARK OFFICE
Washington, D.C. January 2010

Translated by: FLS, Inc.

PUBLICATION COUNTRY	(19):	CN
DOCUMENT NUMBER	(11):	1325665
DOCUMENT KIND	(12):	A
PUBLICATION DATE	(43):	20011212
APPLICATION NUMBER	(21):	01120920.8
DATE OF FILING	(22):	20010613
ADDITION TO	(61):	
INTERNATIONAL CLASSIFICATION	(51):	A61F 7/00; H05B 3/56
PRIORITY	(30):	
INVENTORS	(72):	BU, FANTANG
APPLICANT	(71):	BU, FANTANG
DESIGNATED CONTRACTING STATES	(81):	
TITLE	(54):	ELECTROTHERMAL DEVICE AND ELECTROTHERMAL MEDICAL BAG MADE OF SAID DEVICE
FOREIGN TITLE	[54A]:	Yi Zhong Dian Re Zhuang Zhi Ji Qi Yong Gai Zhuang Zhi Zhi Zuo De Dian Re Yao Shu Dai

PATENT APPLICATION CLAIMS /1*

1. A type of electrothermal device and electrothermal medical bag made of said device, wherein it is characterized by: two sections of nickel-chromium alloy electrothermal wire with an interception diameter of 0.17 - 0.23 mm and an ohm value of 26 - 88 ohms. The two sections of electrothermal wire run independently or together. They can be circuitous or encircling. The distance is 6 - 11 mm and they are fixed on a soft support. The two ends of one section of electrothermal wire are separately and connected in parallel to the two ends of the other section of electrothermal wire and connected to the output of a 10 - 28 volt matched power supply transformer to complete the electrothermal device of the present invention.

2. A type of electrothermal device and an electrothermal medical bag made of said device, comprising a Chinese medicine bag, wherein it is characterized by: one side of the electrothermal device is attached to a warming support material. The other side is attached to a Chinese medicine bag. It is packed and fixed in a bag to complete the electrothermal medicine bag.

3. A type of electrothermal medicine bag using Claim 2 of the Patent Application Claims, wherein it is characterized by: connect the power source and place the Chinese medicine bag of the electrothermal medicine bag on the body at the location to apply heat for fomentation.

* Number in the margin indicates pagination in the foreign text

Description of the Invention /1

ELECTROTHERMAL DEVICE AND ELECTROTHERMAL MEDICAL BAG MADE OF SAID DEVICE

The present invention relates to a type of electrothermal device. It also relates to using said electrothermal device as an electrothermal medicine bag.

With current electrothermal devices, such as an electric blanket and heating pad products, the electrothermal wire is directly connected to the 220 v power supply or a power supply greater than 36 v. Furthermore, there is only the single electrothermal wire connected in series between the heating bad and the power supply. Because a single wire is made into the heating device, there is a level of safety that is compromised when used with high voltage. Shortcomings of such design include a low temperature, the heat distribution is uneven, the area of the heating device is small, there are more accessories to attach, the overall product cost is greater, and a single unit is not able to simultaneously heat two locations.

The purpose of the present invention is to provide a type of safe electrothermal device that can be used under low voltage conditions and therefore overcomes the problems with electrothermal devices using existing technologies. Such shortcomings include high voltage, low temperature, and small unit area of electrothermal wire distribution which causes an uneven distribution of high and low temperatures.

Another purpose of the present invention is to use the electrothermal device of the present invention to make an electrothermal medicine bag which therefore overcomes the shortcomings in existing technologies such

as having high voltages near the body, low temperature of the electrothermal bag, small heating area, uneven heat distribution, poor fomentation, fomentation unable to be applied at two different locations, and the high cost of manufacture.

The present invention resolves the technology of the prior art by: two sections of nickel-chromium alloy electrothermal wire with an interception diameter of 0.17 - 0.23 mm and an ohm value of 26 - 88 ohms. The two sections of electrothermal wire run independently or together. They can be circuitous or encircling. The distance is 6 - 11 mm and they are fixed on a soft support. The two ends of one section of electrothermal wire are separate and connected in parallel to the two ends of the other section of electrothermal wire and connected to the output of a 10 - 28 volt matched power supply transformer to complete the electrothermal device of the present invention.

The aforementioned soft support refers to a textile fabric or animal leather such as cotton cloth, linen cloth, blended cloth, rabbit skin, or sheep skin.

Another purpose of the present invention is to have one side of the electrothermal device attached to a warming support material. The other side is attached to a Chinese medicine bag. It is packed and fixed in a bag to complete the electrothermal medicine bag.

The aforementioned warm support material refers to sponge, cotton, a multi layered fabric, rayon, artificial leather, fur or similar manufactured warm support material.

The aforementioned medicine bad comprises baking one type of multiple

types of Chinese herbs in an oven set to 70 - 80°C. The herbs are then crushed into a powder and evenly mixed before packing in a bag and evenly applied and fixed to obtain the aforementioned Chinese medicine bag.

The aforementioned electrothermal device, Chinese medicine bag, soft support, warm support material, and fabric area are of the same suitable shape and can be made into a square, rectangle, circular, oval, triangular, glove, or sock shape, etc. /2

Connected to a power supply, the Chinese medicine bag of the electrothermal medicine is placed on the body, or the hand or the foot is placed within the electrothermal medicine bag to apply heat at that location for fomentation.

The low voltage, high temperature, large area, even heat distribution, parallel connection of the electrothermal wire of the electrothermal device of the present invention can be used to make a single electrothermal device or two individually separated electrothermal devices. Said electrothermal device can also be made into an electrothermal medicine bag. When used, the lowest temperature it can reach between it and the skin is 45 ± 1.5°C. It uses low voltage which is safe, the fomentation area is large, it is easy to manufacture, it is low cost to manufacture, it is clearly effective, it is easy to use, it has great market potential, and it is easy to promote.

The following combination of preferred embodiments further describes, in detail, the present invention.

The diagram is a circuit structure diagram of the present invention.

Preferred Embodiment 1. Provided are two sections of nickel-chromium

alloy electrothermal wire with an interception diameter of 0.21 mm and an ohm value of 26 ohms. The two sections of the electrothermal wire run together in parallel at a distance of 8 mm, circuitous, fixed onto cotton cloth. The two ends of one section of electrothermal wire are separate and connected in parallel to the two ends of the other section of electrothermal wire and connected to the output of a 10 volt matched power supply transformer to complete the electrothermal device of the present invention.

Prepare: largehead atractylodes rhizome, poria sclerotium, baked ginger, cinnamon, cardamom, medicine terminalia fruit, nutmet, fructus evodiae, paoralea fruit, and sharpleaf galangal fruit, etc. additives. Bake in an oven at 70 - 80°C. Crush into a powder. Pack into bags and apply to a thickness of approximately 2 mm. Sew to fix to complete a type of square shaped electrothermal medicine bag.

Apply one side of the aforementioned electrothermal Chinese medicine bag to the stomach of an infant or child. Connect the power supply. After the electrothermal device heats up, the heat will pass through to the abdomen and the area around contact region and therefore promotes blood circulate at the location of fomentation. At the same time, the Chinese medicine is heated and a large amount of the active ingredients of the medicine is diffused so that there is a large amount of volatiles between the bag and the skin at the abdominal region. The volatiles are then absorbed by the skin. The heat treatment and absorption of Chinese medicine offer a two-fold effect in order to provide fomentation and treatment. The highest temperature between the fomentation bag and skin reaches 45

± 1.5°C and is suitable for infant enteritis, diarrhea, bloating, and enterospasms, etc.

Preferred Embodiment 2. Provided are two sections of nickel-chromium alloy electrothermal wire with an interception diameter of 0.19 mm and an ohm value of 32 ohms. The two sections of the electrothermal wire run individually in parallel (Figure 2) at a distance of 7 mm, circuitous, fixed onto rabbit skin to form a rectangular shape. The two ends of one section of electrothermal wire are separate and connected in parallel to the two ends of the other section of electrothermal wire and connected to the output of a 12 volt matched power supply transformer to complete the electrothermal device of the present invention.

Prepare the following Chinese herbs: angelica root, cnidium, safflower, peach seed, milea-minute weed, nut grass galingale rhizome, ciler root, kusnezoff monkshood root, aconite root, curcuma, angelica, and ground beetle, etc. additives. Bake in an oven at 70 - 80°C. Crush into a powder. Pack into bags and apply to a thickness of 2 mm. Sew to fix to complete a Chinese medicine bag of corresponding area and shape to the aforementioned electrothermal device.

Attach sponge or man-made leather to one side of the aforementioned electrothermal device and attach the Chinese medicine bag to the other side. Pack in a bag and fix to prepare an electrothermal medicine /3 bag.

Attach the medicine bag side of the electrothermal medicine bag to the location of fomentation. Connect the power to use. Use to treat cervical spondylosis, etc. When using the electrothermal medicine bag to heat,

the temperature between it and the skin is 47 ± 1.5°C.

Preferred Embodiment 3. Provided are two sections of nickel-chromium alloy electrothermal wire with an interception diameter of 0.19 mm and an ohm value of 42 ohms. The preparation of the electrothermal device and Chinese medicine bag, and the shape thereof is the same as in Preferred Embodiment 2. Its size is slightly larger than in Preferred Embodiment 2. The two ends of one section of electrothermal wire are separate and connected in parallel to the two ends of the other section of electrothermal wire and connected to the output of a 16 volt matched power supply transformer to complete the electrothermal device of the present invention.

Prepare the following Chinese herbs: angelica root, cnidium, Artemisia leaf, peach seed, safflower, milea-minute weed, curcuma, aconite root, fennel, nut grass galingale rhizome, angelica, cassia twig, siler root, sargentodoxa vine, atractylodes rhizome, and phellodendron bark, etc. additives. Bake at 70 - 80°C. Crush into a powder. Apply to a thickness of 2 mm. Sew to fix to complete a Chinese medicine.

Apply the medicine bad of the electrothermal medicine bag to the lower abdomen region. Apply power to heat and use. Use for diseases such as chronic gynecological inflammation, chronic pelvic inflammatory disese, postpartum abdominal pain, ankylenteron abdominal pain, and chronic enteritis, etc. When used for fomentation, the temperature between the electrothermal medicine bag and the skin is as high as 52 ± 1.5°C.

Preferred Embodiment 4. Provided are two sections of nickel-chromium alloy electrothermal wire with an interception diameter of 0.17 mm and

an ohm value of 76 ohms. The electrothermal wire is run as shown in Preferred Embodiment 2. The electrothermal wire distance is 9 mm and it is fixed to blended cloth. The two ends of one section of electrothermal wire are separate and connected in parallel to the two ends of the other section of electrothermal wire and connected to the output of a 24 volt matched power supply transformer to complete the electrothermal device of the present invention.

Prepare the following Chinese herbs: angelica root, cnidium, peach seed, safflower, milea-minute weed, curcuma, aconite root, angelica, cassia twig, siler root, aconite root, atractylodes rhizome, twotooth achyranthes root, large leaf gentian root, selematis root, notopterygium root, pubescent angelica root, herba taxilli, geosaurus, and ground beetle, etc. additives. Bake at 70 - 80°C. Crush into a powder. Apply to a thickness of 3 mm. Sew to fix to complete a Chinese medicine bag of corresponding area and shape to the aforementioned electrothermal device.

Apply multi-layer cloth on one side of the aforementioned electrothermal device. Apply the Chinese medicine bag to the other side. Pack in a bag and fix to prepare the electothermal medicine bag.

Apply one side of the Chinese medicine bag of the electrothermal medicine bag onto the skin of the location of fomentation. Connect the power supply to use. Use for diseases such as rheumatic disease and rheumatoid arthritis, hypertrophic spondylitis, muscle inflammation, hyperosteogeny, scapulohumeral periarthritis, lumbar muscle strain, lumbar disc herniation, cervical spondylosis, tenosynovitis, and neuralgia, etc. The temperature between the electrothermal medicine bag

and the skin is as high as 60 ± 1.5°C.

Preferred Embodiment 5. Provided are two sections of nickel-chromium alloy electrothermal wire with an interception diameter of 0.23 mm and an ohm value of 68 ohms. Each section of wire is separately formed into a circular or oval shape. The electrothermal wire distance is 6 mm and it is fixed to linen cloth. The two endpoint lines of one section of electrothermal wire are separate and connected in parallel to the two ends of the other section of electrothermal wire to form two circular or oval shaped of corresponding size to the electrothermal device and connected to the output of a 24 volt matched power supply transformer /4 (Figure 3) to complete the electrothermal device of the present invention.

The medicine used in the Chinese medicine bag and preparation method thereof is the same as Preferred Embodiment 4. The prepared area and shape is the same as the Chinese medicine bag of the aforementioned electrothermal device.

One side of the aforementioned electrothermal device is affixed with sponge of 10 mm thickness or rabbit skin. Apply the Chinese medicine bag to the other side. Pack in a bag to fix to prepare a type of electrothermal medicine bag.

Affix the one surface with the two aforementioned Chinese medicine bag of the aforementioned electrothermal device to two joints on the body. Connect the power supply to use. The temperature between the electrothermal medicine bag and the skin is as high as 61 ± 1.5°C. Use on both shoulder joints, both knee joints, both ankle joints, etc. for fomentation.

Preferred Embodiment 6. Select 0.19 mm diameter nickel-chromium alloy

electrothermal wire coil. Cut two sections of 88 ohm electrothermal wire. The electrothermal wire distance is 11 mm. After connecting in parallel, connect with a matching 28 volt output power supply transformer to prepare an electrothermal device. Prepare the Chinese medicine to make the Chinese medicine bag. The medicine used in the Chinese medicine bag and preparation method thereof is the same as Preferred Embodiment 5. The temperature between the electrothermal medicine bag and the skin is as high as 65 ± 2°C.

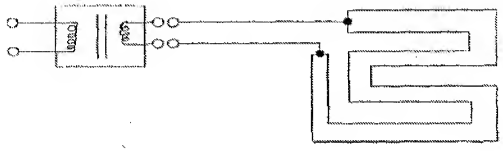

Figure 1

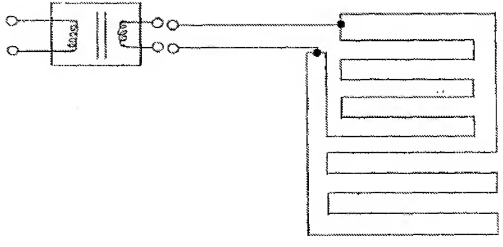

Figure 2

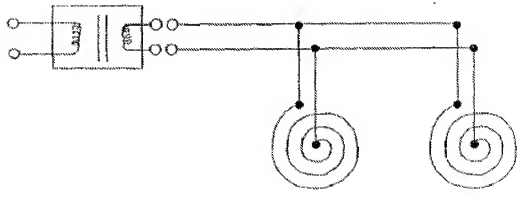

Figure 3